

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Docket No: Q87762
Atsushi Kikuchi et al.
Appln. No.: 10/533,301 Group Art Unit: 1794
Confirmation No.: 5170 Examiner: Walter B. Aughenbaugh
Filed: January 13, 2006
For: PREFORM, METHOD OF PRODUCING THE SAME, AND BIAXIALLY
DRAWN CONTAINER MADE FROM THE PREFORM

DECLARATION UNDER RULE 1.132

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Shinichiro Funaoka, hereby declare and state that:

In March, 2005, I received doctorate in engineering at graduate school, Tokyo Institute of Technology;

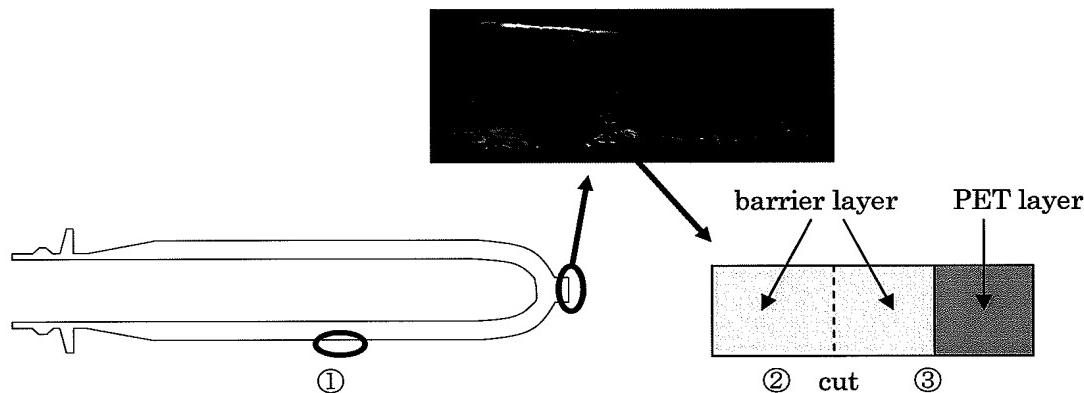
In April, 2005, I was employed by TOYO SEIKAN GROUP, Corporate Research & Development, Yokohama, Japan, as a research chemist and am now engaged in the study and development of materials for containers in the Technology & Packaging Development Division;

In order to have Mr. Yamada who is one of the inventors of Yamada et al. application (U.S. Patent No. 4,528,219) make sure if the pipe and the preform belonging to our company are the same as those disclosed in the Yamada et al. application (U.S. Patent No. 4,528,219), I have taken the following measurements to clarify the layer constitution (resin constitution) of the preform.

○ Measuring Conditions:

A sample (thin film) for microscope FT-IR measurement was prepared by melt-pressing a cut piece on a hot stage (290°C). Measurement was taken by placing the sample on a KBr board. The cut piece was recovered from positions as described below.

- ① PET layer: The surface of the formed article was cut.
- ② Barrier layer: The gate portion was cut, and a portion sufficiently separated away from the interface to the PET layer was cut off.
- ③ PET-barrier interface: The gate portion was cut. A fraction of ②.



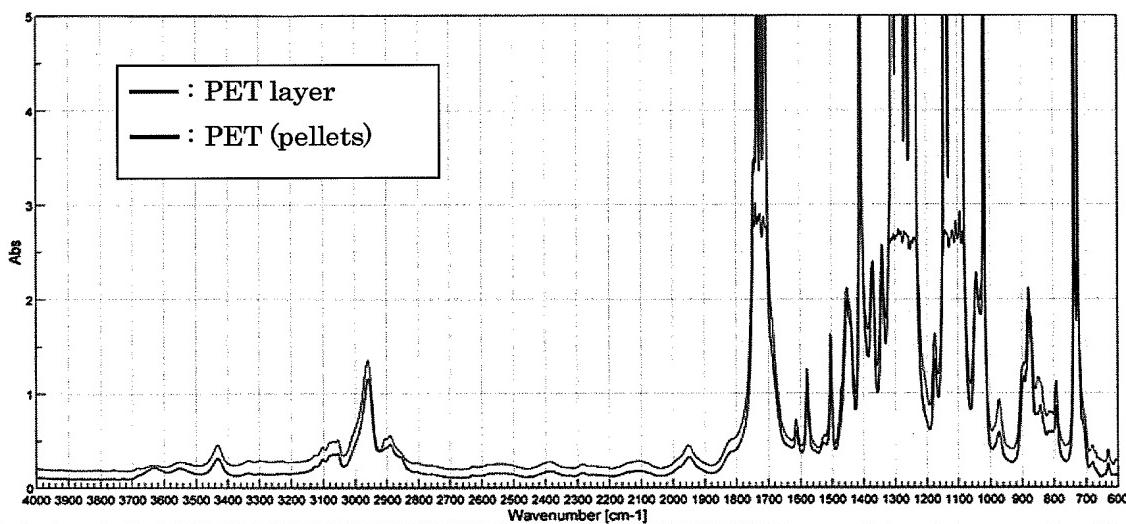
○ Measured Results:

- The outer layer of the formed article exhibits a spectrum in agreement with the spectrum of the starting PET. Therefore, the outer layer is the PET layer (measured result ①).
- The barrier layer does not exhibit the spectrum of the corresponding starting material but is presumed to be EVOH from the peaks (measured result ②).
- The PET-barrier interface shows intense peaks near 3300 cm^{-1} and 1650 cm^{-1} indicating the presence of a substance having an amide bond ($-\text{NH}-\text{CO}-$) in the interface, which is contained

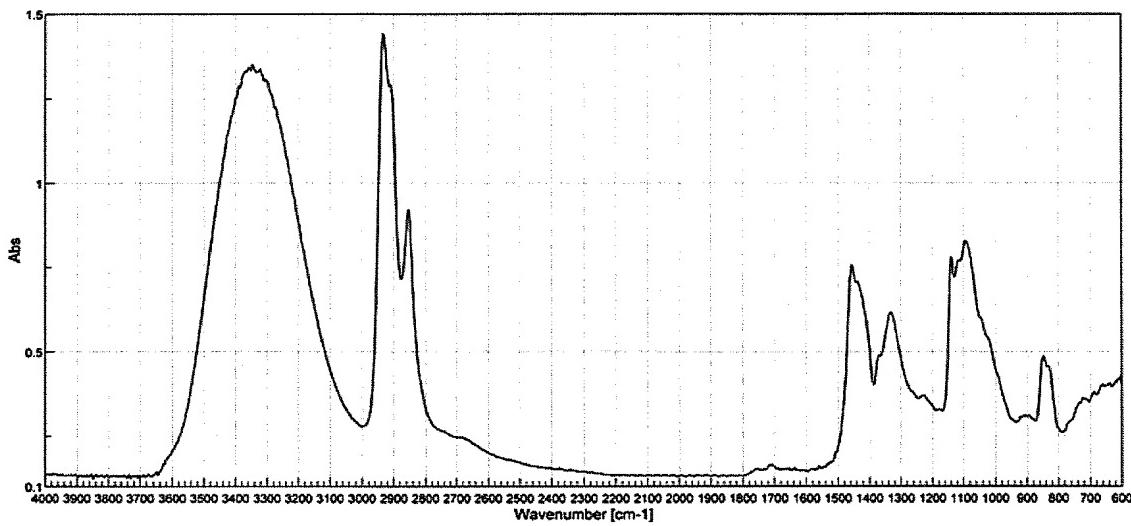
in neither the outer layer nor the barrier layer (measured result ③). This will be described below in detail.

Though the peak 3300 cm^{-1} was determined to be stemming from NH of the amide bond, it could also stem from OH of the barrier member or from water. However, an intense peak is also observed near 1650 cm^{-1} . This peak was determined to be stemming from CO of the amide bond. However, it could also stem from CO of the ester bond. In the case of the ester bond of PET, however, the peak near 1650 cm^{-1} is weaker than a peak at 1750 cm^{-1} that also stems from the ester bond (see measured result ①). It is, therefore, proper to determine that the peak near 1650 cm^{-1} is stemming from CO of the amide bond.

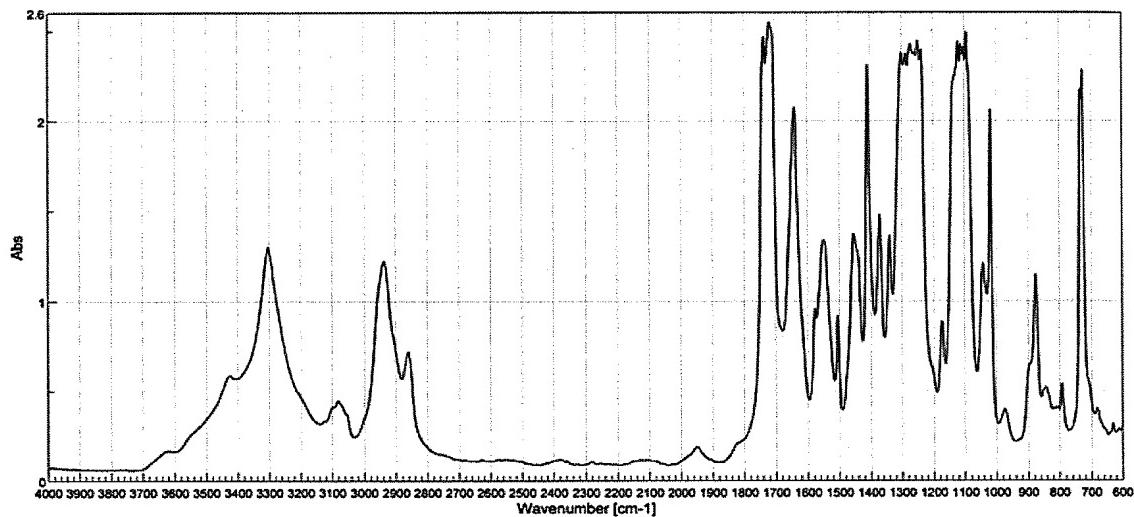
①



②



③



I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of

Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: February 22, 2010

Shinichiro Funaoka

Shinichiro Funaoka